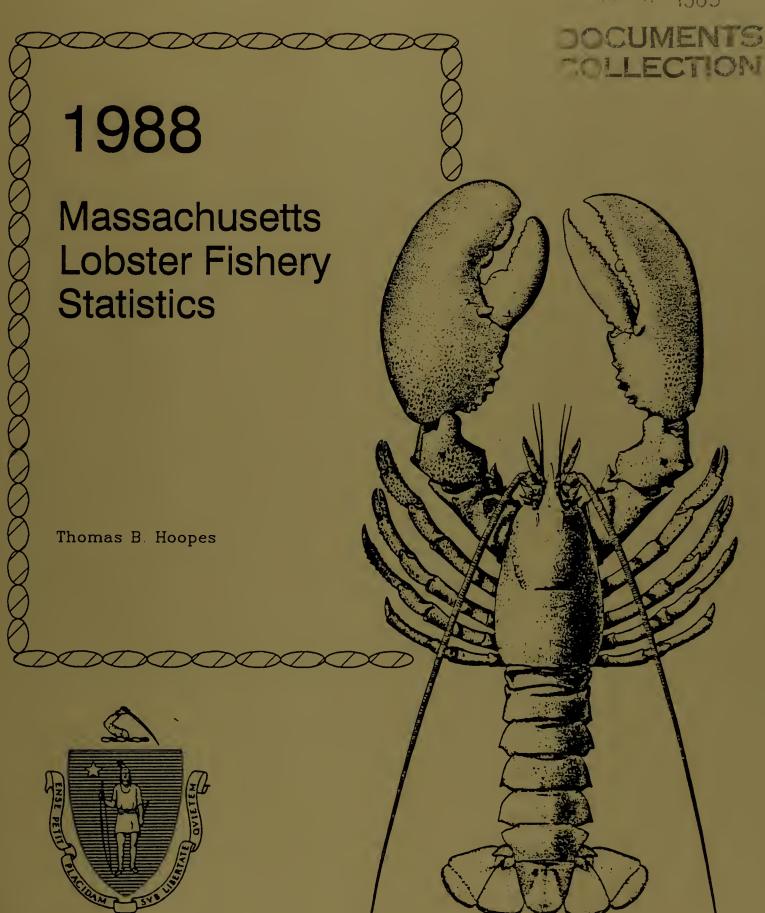




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MASSACHUSETTS
DIVISION OF MARINE FISHERIES



1988 MASSACHUSETTS LOBSTER FISHERY STATISTICS

by
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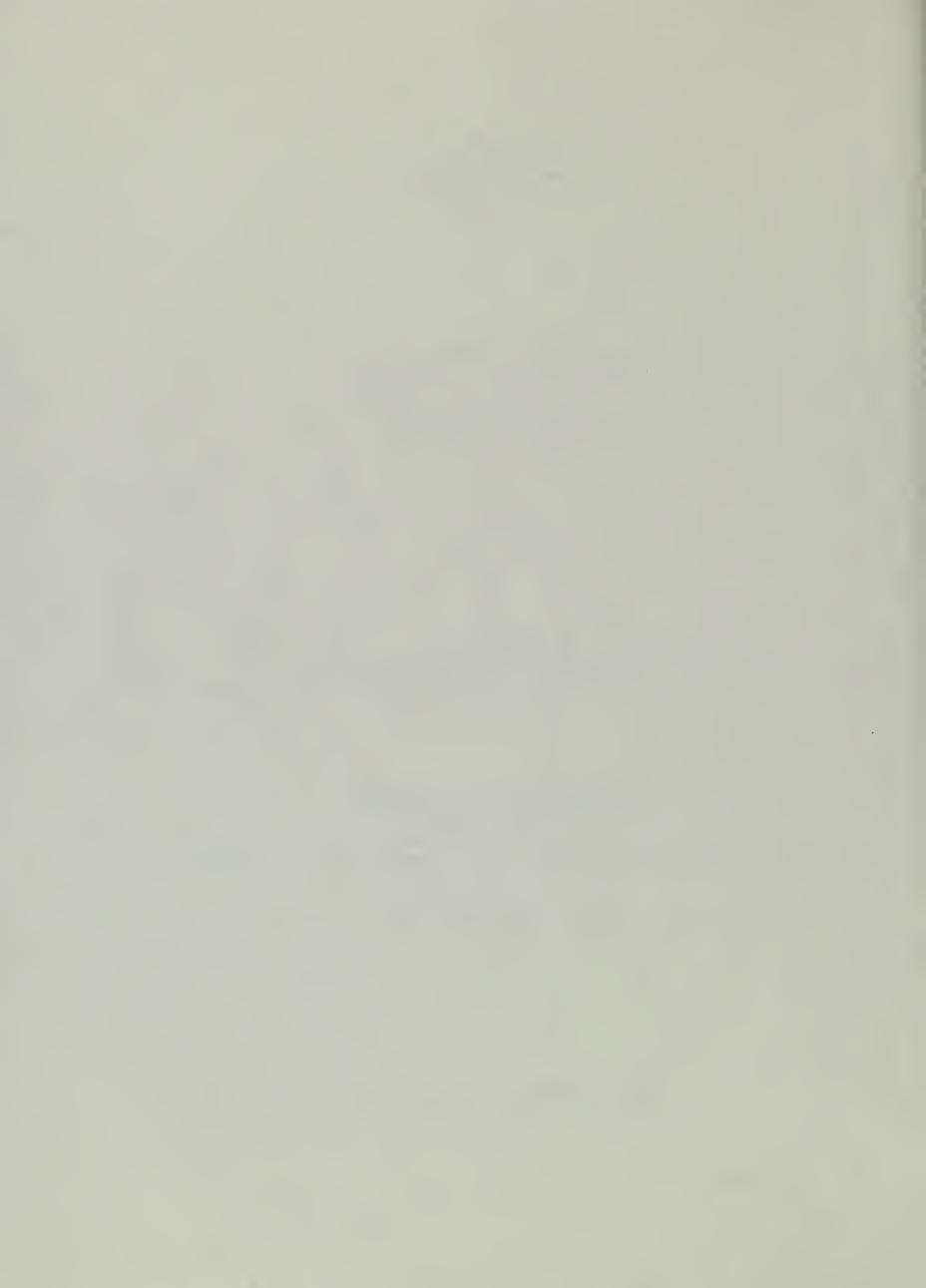
Technical Series 23

A contribution of Commercial Fisheries Research and Development (P.L. 88-309) Project 3-416-D

The Commonwealth of Massachusetts
Executive Office of Environmental Affairs
John P. DeVillars, Secretary

Department of Fisheries, Wildlife and Environmental Law Enforcement
Walter E. Bickford, Commissioner
Division of Marine Fisheries
Philip G. Coates, Director

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INTRODUCTION

The commercial lobster fishery of Massachusetts is, economically, the most important fishery conducted within the territorial waters of the Commonwealth. The overall economic importance of the fishery both in New England and, in recent years, the Mid-Atlantic states, has focused the attention of Federal, Regional and State fishery managers on this species. Initially, in an attempt to standardize management of the fishery, the Federal and State Governments developed an overall lobster fishery management plan under the auspices of the State-Federal Partnership Program. However, with the passage of the Fisheries Management and Conservation Act, the New England Fisheries Management Council, in cooperation with the Mid-Atlantic Council, has developed and implemented a management plan for the entire east coast lobster fishery. The basis and success of any such plan is an accurate statistical data base. The Commonwealth of Massachusetts, with joint funding from the National Marine Fisheries Service, has been collecting annual reports from licensed lobster fishermen for many years. Historically, the data collected was used primarily for descriptive and informational purposes, and occasionally for management. However, with the recent emphasis on Federal management, these data take on added importance in terms of providing the respective management agencies with adequate information to insure that the interests of Massachusetts' lobstermen are protected.

During the period 1975 - 1980, the number of coastal commercial lobster permits was limited, by law, to 1300, with an additional ten percent issued to proven hardship cases. In 1981, a statutory change provided for the establishment of a permanent waiting list from which 100 new permits were issued. In addition, 30 special additional permits were awarded to full time commercial fishermen who met certain criteria. In subsequent years 80 list permits and 20 special additional permits have been issued until 1988, when the issuance of new coastal permits was suspended. Permits which are not renewed are retired.

This report is the twenty - second annual publication of data summarized from catch reports submitted by licensed lobster fishermen. Data were presented in a standardized format through 1979. In 1980, presentation was changed to reflect a more thorough collection and evaluation of the submitted information. This publication represents the third year in which data processing and evaluation were completely computerized. It perpetuates the existing time series, and expands upon areas not addressed in previous years. All data elements presented in previous reports are presented here, although they may not be in the same tabular format. This report does not, however, cover the scope of the Project's existing database and computational capability. Requests for expanded information, or questions concerning this publication, should be made to the Division's Statistics Project in Salem, MA: (508) 745-3113.

This report has been prepared by personnel from the Division of Marine Fisheries Statistics and Data Processing Project, funded jointly by the Commonwealth and the National Marine Fisheries Service under the Commercial Fisheries Research and Development Act (Public Law 88-309). The preparation of this report would not have been possible without the cooperation of licensed

lobstermen who provided the information on their annual reports. Special thanks go to Ann Spires for her virtually error-free data entry and to Gerald Nash for his help in mainframe computing where the information is stored. Thanks also go to Charles Anderson for his continual help with system development, upgrades and suggestions concerning this publication.

SOURCE OF DATA

No person may fish for or take lobster in coastal waters or land lobster in the Commonwealth without a permit issued by the Director of the Division of Marine Fisheries (Chapter 130, Mass. G.L., Section 38). Chapter 130, Mass. G.L., Section 33, requires any person so licensed to file an annual report of their catch by January 31 for the preceding calendar year. In 1980, a dual reporting system was established. Commercial lobstermen (coastal, offshore and seasonal(student)) received a detailed catch report form with their license renewal application. This report requests the following information: method of fishing; number and type of gear used; effort data (set-over days, number of trips per month, etc.); pounds of lobster taken; areas fished; principal ports of landing; and information relative to the vessels and traps used in the fishery. Recreational fishermen are asked to report on their license renewal application form the number of lobsters taken during the previous year and the maximum number of traps fished. However, due to the fact that recreational licenses are not processed completely at the time of publication, an addendum will be published at a later date.

Each year 150 Coastal Lobstermen are selected and audited for the records used to complete the catch portion of their catch report. The Division does this to assess the amount of error involved in the reporting process. Selection is done randomly except when fishermen fail an audit. In these cases, they are audited again the following year. The audit was first instituted in 1977 for the 1976 catch reports. Over the last five years the lobstermen selected for audit reported landing 5,200,543 pounds. The audit of their records revealed a harvest of 5,154,042 pounds or a difference of 0.90%.

Project personnel sort, edit, tabulate and interpret data from all reports received. Data presented in this publication are based on catch reports actually received as of May 16, 1989, and are not expanded to represent all of the permits issued in 1988.

EXPLANATION OF TABLES

All data presented in this publication are broken down into two basic categories: the first is "inshore" which represents data pertaining to all lobster activity taking place within 69 degrees West Longitude and 41 degrees North Latitude (Areas 1-12 on Figure 2); the "offshore" category refers to all data outside those coordinates (Area 13 on Figure 2). This is not to be confused with the offshore license category

which allows fishermen to harvest lobster outside the territorial waters line (approximately 3 miles from shore) only, a line that falls within the inshore category. Below is a brief definition of each license type:

Coastal Commercial: Allows the holder to harvest lobster anywhere, most importantly inside territorial waters.

Offshore Commercial: Allows the holder to harvest lobster outside territorial waters only.

Seasonal Commercial: Allows the holder, if he or she is a student to harvest lobster anywhere, but with a maximum of 25 traps and only during the months June - September.

Non-commercial: Allows the holder to harvest lobster anywhere but with a maximum of only 10 traps (if fishing traps) and cannot sell catch.

Tables presenting number of fishermen, number of pots fished, number and value of boats used in the fishery and total landings statewide, by county and license type, and for each city and town were prepared using the catch reports submitted by commercial fishermen. In keeping with Division policy, some of the data are masked or combined to protect the confidentiality of the individual submitting the report. Data referring to the number of fishermen, number and value of gear, and number and value of boats are presented by the home port of the licensee filing the report. Pounds of lobster harvested are presented by the port of landing reported by the fishermen.

In years past the category "did not catch lobster", as presented in Tables 1 and 2, was termed "did not fish". This presented a problem with certain fishermen who did not actually direct their efforts or "fish" for lobster, but caught them incidentally. They would complete their reports claiming they didn't fish for lobster when they did in fact catch them. The 1988 catch report was worded differently. It asked whether lobster was caught or not. It was felt that although this might disrupt the data time series in the "offshore" license category, it was more important to know what was actually being caught.

Vessel and SCUBA gear values were calculated on the basis of the fishermen's estimate of its present value and the percentage of its use specifically for lobstering. Average values were used when the information was omitted from an individual report. The legal size of a lobster was increased in 1988 to 3 7/32 inches from 3 3/16 in 1987, the only increase in 28 years. When fishermen reported the number of lobsters taken, rather than poundage, a conversion factor of 1.24 pounds per lobster was used to calculate poundage figures. This figure is based on information collected by the Division's Commercial Lobster Investigations Project. For information on biological (average carapace length, sex ratios, percent of eggbearing lobster in catch etc.) and other parameters (mortality and exploitation rates) contact this project in Sandwich, MA at (508) 888-1155.

Where tables refer to county, the reader is referred to Figure 10.

1988 HIGHLIGHTS

- 1. There were 15,545 lobster licenses of all types issued during 1988: 1,832 coastal commercial; 795 offshore commercial; 99 seasonal commercial and 12,819 non-commercial. As of May 16, 1989, a total of 190 licensed commercial lobstermen (7 percent) failed to file a catch report with the Division. Of the 2,726 commercial fishermen who reported, 724 or 27 percent claimed they did not catch any lobster during 1988. See Table 1 for a summary of the reporting status and Table 2 for a five year comparison.
- 2. A total of 14,262,798 pounds of lobster were reported landed by commercial lobstermen. Based on a value of \$3.14 per pound (see Figure 1.), the commercial catch was valued at \$44,785,186. The coastal license holders were responsible for landing 12,041,449 pounds, or 84.4 percent of the commercial catch. See Table 3 for a breakdown of pounds landed and number of fishermen by license type and county.
- 3. Of the 14,262,796 pounds of lobster landed commercially, 12,345,100 were reported taken inside of 69 degrees West and 41 degrees North (inshore), and of that number, 9,700,058 pounds (79% of inshore catch, or 68% of total catch) were estimated to have been taken within the territorial waters of the Commonwealth.
- 4. In total pounds of lobster landed, Essex County ranked first, Plymouth County second and Suffolk County third. Boston ranked first in total pounds landed followed by Gloucester, Plymouth and Beverly. In total numbers of active commercial fishermen, Essex County ranked first with 719, Plymouth County second with 382 and Bristol County third with 218. Gloucester ranked first in active fishermen followed by Boston, New Bedford and Plymouth. See Tables 3 and 6, (the shaded areas in Table 6 refer to the top 10 cities in at least one of the two categories).
- 5. In the commercial fishery, pots were valued at \$20,080,768, diving gear at \$45,956, and power and non-power boats at \$53,390,952, yielding a total gear value of \$73,517,676. Combined with the value of lobster sold, \$44,785,186, gives a total fishery value of \$118,302,862. See Tables 3, 5 and 10.
- 6. Information concerning the type and value of traps fished was collected from the annual catch reports. Overall, 61% of the traps fished in the commercial fishery were wire framed, with 38% being wooden framed and less than 1% categorized as "other". Average value (including warp and buoy) ranged anywhere from \$30.40 to \$85.00, with an overall average of \$43.41. The number of traps fished in 1988 totalled 460,031, a slight increase over 1987. See Tables 4 and 10.
- 7. Inshore landings by commercial fishermen were concentrated during the months July through December when 79 percent of the yearly harvest was landed. See Figures 3 and 4 and Table 8. It is interesting to note that more lobster was landed in the latter months of the year (September December) compared to 1987. This shift may be attributed to the average molting time occurring later in the year, when previously sub-legal sized lobster molt and grow into the legal size category.

These four months alone comprised 58 percent of the year's landings.

- 8. The greatest harvest of lobster taken inshore was from the Boston Harbor area (Area 4) followed by the Beverly Salem Marblehead area (Area 3) and the Plymouth area (Area 5). See Figures 2, 5 and 6 and Table 9 for a complete breakdown by area for each license type.
- 9. The average catch per trap haul for coastal lobstermen was 0.6478 pounds. For traps fished one set-over day the average was 0.3267; for those fished two days 0.5535; for three days 0.5783; and for four days 0.6739. See Figure 9 for catch effort by set-over day. Figures 7 and 8 reflect the average catch per trap haul set-over day for area fished and month, where set-over day is factored into the denominator. In this case the overall potmen average was .2137.
- 10. Last year the fishermen selected for audit reported harvesting 1,181,621 pounds of lobster on their 1987 catch reports. The audit of their actual records showed total landings of 1,163,911 pounds, a difference of 12,290 pounds or 1.07 percent. Random audit of the 1988 reports was taking place at time of publication.

Figure 1. 1988 Massachusetts Commercial Lobster Fishery; Average Weighted Ex-Vessel Price Derived from Audited Lobstermen's Records



Total number of observations = 1,388.

Gaps in line represent missing prices for that date.

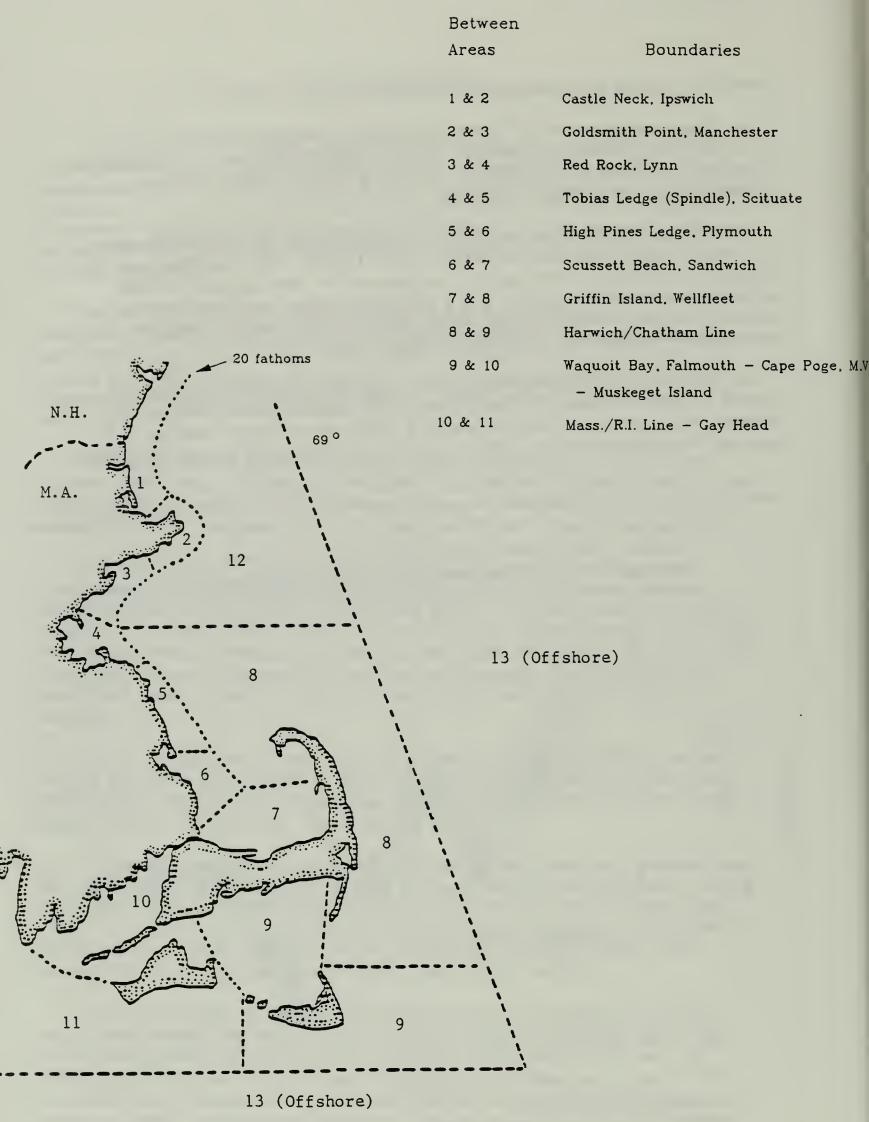


Figure 2. Location and Description of Coastal Lobster Fishing Areas in Massachusetts

Table 1. 1988 Massachusetts Commercial Lobster Fishery; Reporting Status of Licenses Issued

License Type	Licenses <u>Issued</u>	Total <u>Value</u>	Repo	orted Lobster"		oorted ster Catch"		Not orting
Coastal Commercial (\$ 200)	1,832	\$366,400	1,436	78%	362	20%	34	2%
Offshore Commercial (\$ 200)	795	\$159,000	323	41%	347	44%	125	16%
Seasonal (Student) Commercial (\$ 50)	99	\$4,950	53	54%	15	15%	31	31%
Total	2,726	\$530,350	1,812	66%	724	27%	190	7%

Non-Commercial figures unavailable at time of printing, an addendum will be inserted when information is available.

Table 2. Massachusetts Commercial Lobster Fishery; Selected Licensing Information, 1984 - 1988

			-	-		Percent Five
	1984	1985	1986	1987	1988	Year Change
Coastal Licenses						
Issued % Change	1,697	1,744 2.77	1,803 3.38	1,877 4.10	1,832 -2.40	7.96
"Caught Lobster" % Change	1,353	1,368 <i>1.11</i>	1,418 3.65	1,434 1.13	1,436 <i>0.14</i>	6.13
"Did Not Catch Lobster" % Change	296	349 17.91	359 2.87	409 13.93	362 -11.49	22.30
Not Reporting % Change	30	27 -10.00	26 -3.70	34 <i>30.7</i> 7	34 0	13.33
Percent Not Reporting	2	2	1	2	2	
Offshore Licenses						
Issued % Change	688	673 -2.18	711 5.65	764 7.45	795 4.06	15.55
"Caught Lobster" % Change	174	167 -4.02	294 76.05	291 -1.02	323 11.00	85.63
"Did Not Catch Lobster" % Change	355	347 -2.25	270 -22.19	319 18.15	347 8.78	-2.25
Not Reporting % Change	159	159 <i>o.oo</i>	147 -7.55	161 9.52	125 -22.36	-21.38
Percent Not Reporting	23	24	21	21	16	
Seasonal (Student) Licenses						
Issued % Change	227	188 -17.18	171 -9.04	131 -23.39	99 -24.43	-56.39
"Caught Lobster" % Change	116	108 -6.90	88 -18.52	60 -31.82	53 -11. <i>6</i> 7	-54.31
"Did Not Catch Lobster" % Change	19	15 -21.05	13 -13.33	9 -30.77	15 66.67	-21.05
Not Reporting % Change	92	65 -29.35	70 7.69	63 -10.00	31 -50.79	-66.30
Percent Not Reporting	41	35	41	48	31	

AREA:			INSHOR	E (Inside 69°V	INSHORE (Inside 69°W 41°N (Areas 1-12))	2))			OFFSHORE	3 (Outside 69°W 41°N		(Area 13))	
LICENSE TYPE:		COASTAL -	TAL		SEASONAL	OFFS	- OFFSHORE		COASTAL	OPPSHORE			
GEAR TYPE:	Diver	Potman	Potman/ Diver	Trawl or Gillnet	Potman	Potman	Trawl/ Gilloct	TOTAL	Potman	Potman	Trawl	TOTAL	GRAND
COUNTY BARNSTABLE													
Fishermen	en	140	œ		\$	4	7.7	187		7	7	14	204
Pounds	4,446	804,061	23,217	1,372	820	211,325	47,457	1,092,698	115,193	568,192	24,213	707,598	1,800
Value (\$)	13,960	2,524,752	72,901	4,308	2,575	195'599	149,015	3,431,072	361,706	1,784,123	76,029	2,221,858	5,652,929
BRISTOL													
Fishermen		8			E	6	53	131	3	7	76	98	218
Pounds		598,882	4,080		168	167,766	58,004	829,500	171,073	448,033	127,542	746,648	1,576,148
Value (\$)	0	1,880,489	12,811	0	2,412	526,785	182,133	2,604,630	537,169	1,406,824	400,482	2,344,475	4,949,105
DUKES													
Fishermen		26				9		32				0	37
Pounds		133,732	1,684		225	34,321	423	170,385	12,473	5,631	2,634	20,738	191,123
Value (\$)	0	419,918	5,288	0	707	107,768	1,328	535,009	39,165	12,681	8,271	65,117	600,126
ESSEX													
Fishermen		603	∞	4	18	7	63	703			=	11	719
Pounds	429	4,901,941	18,412	2,432	1,179	2,671	82,070	5,009,134	47,310	126,300	29,496	203,106	5,212,240
Value (\$)	1,347	15,392,095	57,814	7,636	3,702	8,387	257,700	15,728,681	148,553	396,582	92,617	637,753	16,366,434
NANTUCKET													
Fishermen		\$ 50.00					8	2	103				(
Pounds Value (C)	c	42,068	c	c	c	-	3 £	42,158	7.450	•	-	783	12,24
	•	100,000	•)		•		0.00			•		
NORFOLK		,			,			i i					ì
Fishermen		000	\$20.30		\$ 900			6/1 2/5			030	0	200.00
Founds	•	514,8/2	25,835	c	808 -	•	¢	2 641,315	c	c	2 2		0 644 744
Value (3)	>	2,338,098	81,122	>	, x0x,	>	5	2,041,729	>	>	5,014	5,014	2,044,74
PLYMOUTH													
Fishermen		315	91	S	61	\$	16	376				0	382
Pounds	730	2,439,014	87,093	3,568	4,011	8,535	42,741	2,585,692	4,038	153,040	2,569	159,647	2,745,339
Value (\$)	2,292	7,658,504	273,472	11,204	12,595	26,800	134,207	8,119,073	12,679	480,546	8,067	501,292	8,620,364
SUFFOLK													
Fishermen		127			e ;		81	148		000	12	12	162
Pounds Velue (\$)	65 356	1,724,700	c	c	421	-	28,283	1,774,218	37,197	0000	120,050	745 605	4 649 614
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Pounds	26.419	11 459 270	े हुन 165 के 1	73.77	8 032	819 878	250 056	12 345 100	788 (167	1 207 196	227 435	1 917 698	14 262 798
Value (\$)	82,956	35,982,108	503,408	23,148	25,220	1,333,301	813,474	38,763,614	1,218,530	4,104,595	698,446	6,021,572	44,785,186
OUT OF STATE													
17ishermen							3	3			9	9	12
Pounds		. 6,750				4,756	1,200	12,706		162,076	4,077	166,153	178,859
(3) 911 9		301 10	<	<	_	7 00 7 0	0720	2000		C C C C C C	200	001 109	

Coloration Col	AREA:	1		INSHOR	E (Inside 69°W	INSHORE (Inside 69°W 41°N (Areas 1-12))	2))		OFFSI	HORE (O	OFFSHORE (Outside 69°W 41°N (Area 13))	(Area 13))	
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1 1 1 1 1 1 1 1 1 1	COUNTY BARNSTABLE												
1 1 1 1 1 1 1 1 1 1	Pots Fished		35,758	1,625		115	2,530	40,0		9	7,100	8,840	48,86
1,	Power Boat	3	137	90	-	5		i i		2			19
4, 200	Non Power Boat		-									0	
1,1,69	ISTOL												
Column	ts Fished		21.699	165		74	3,530	25.4		8	6,190	9.340	3,75
4,200 8	wer Boat		87	-		3				3			17
1,148	n Power Boat								0			•	
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177,663 1405	EX												
1,148	s Fished		177,683	1,405		340	287	179,7		43	1,650	4,593	184,30
1,148	wer Boat	2	587	01	4	15			980	3			8
11,148 1	n Power Boat		14			2			16			0	
1,148	VTUCKET												
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Solid Soli	ver Boat		4					· 13.	4			•	
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415,494 8,209 1,082 8,575 433,360 8,281 18,390 26,671 46 7 1,340 44 10 46 31 129 1,607 8 19 83 110 0 22 1 0 0 3 0 0 0 26 0 0 0 0 0 0 250 250 250 250 2,290 1 3 4 2 2 5 5 7	wer Boat	-	120			3			(39				
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250 250 2,290 2,290 2,290 1,290 2,290 2,290 2,290 2,290 2,290	T OF STATE												
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	Power Boat		-					3	4				

AREA:			INSHORI	E (Inside 69°V	INSHORE (Inside 69°W 41°N (Areas 1-12))	12))			OFFSHOR	OFFSHORE (Outside 69°W 41°N (Area 13))	W 41 .N (A	rca 13))	
LICENSE TYPE:		COASTAL Popular	TAL Potman/	Trawlor	SEASONAL (Student)	OFF	OFFSHORE Trawl or	- TOTAL	COASTAL	OF	- OFFSHORE	TOTAL	GRAND
COUNTY										I Outst	MEIT	OFFSHOKE	10101
Diving Gear	4,800		6,241					11,041				.0	11,041
Power Boat Non Power Boat	16,430	3,654,008	361,810	2,000	32,600	726,500	1.70,116	4,963,484 S	712,500	1,890,500	62,424	2,665,424	7,628,908
BRISTOL													
Diving Gear		3	3,750					3,750	I)			0	3,750
Power Boat Non Power Boat		2,557,486	13,000		3,550	546,350	370,707	3,491,093	295,000	1,616,500	945,377	3,156,877	6,647,970
DUKES													
Diving Gear			3,000					3,000				0	3,000
Power Boat Non Power Boat		590,360	2,000		750	141,075		737,185			87,500	87,500 0	824,685 0
ESSEX													
Diving Gear	1,750		7,570					9,320				0	9,320
Power Boat	13,250	16,057,433	13,250	006'9	32,595	205,500	372,298	16,701,226	232,500	000'059	198,666	1,081,166	17,782,392
Non rower Boat		2,220			1,430			2 9				o	0,0,0
NANTUCKET Diving Gear								G				··· e	c
Power Boat		134,666						134,666				0	134,666
Non Power Boat								•				0	0
NORFOLK													
Diving Gear		1 88K 47K	3,430		35 666			3,430				6 6	3,430
Non Power Boat		300						300					300
PLYMOUTH													
Diving Gear	2,800		9,115					11,915				0	11,915
Non Power Boat	2,000	3,860	453,300	16,940	103,331	162,250	149,470	9,426,913		765,000	48,500	813,500	10,240,413
SUFFOLK		Ope'r	3										ř
Diving Gear	3,500							3,500				0	3,500
Power Boat	40,000	4,586,413			17,450		233,440	4,877,303		770,000	1,446,066	2,216,066	7,093,369
STATE TOTAL								0				>	
Diving Gear	12,850	ş	33,106					45,956				0	45,956
Power Boat	007,17	38,006,414	951,760	25,840	225,942		1,296,031	42,359,362	1,540,000	5,692,000	2,788,53	10,020,533	52,379,895
Non Power Boat	0	9,430	8	0	1,577	0	0	. 11,057	0	0	0	0	11,057
OUT OF STATE	Ļ												
Diving Gear Power Boat		35,000					4 750	0 25 05		205 000	45.266	0 000	0 680 016
		20,00											

Table 6. 1988 Massachusetts Commercial Lobster Fishery; Number of Fishermen (Except Seasonal) and Landings by Homeport, Inshore and Offshore

NUMBER	RANK	INSHORE	OFFSHORE	POUNDS	PERCENT	RANK
14	28	166,127	241,154	407,281	2.86	15
47	10	777,986	23,388	801,374	5.62	4
119	2	1,517,055	78,218	1,595,274	11.19	1
9	33	38,018		38,018	0.27	40
26	21	153,874	465	154,339	1.08	24
23	23	141,819	20,048	161,867	1.14	23
46	11	611,567		611 ,567	4.29	7
19	26	95,806	7,749	103,555	0.73	29
19	26	49,171		49,171	0.34	37
19	26	62,292		62,292	0.44	33
8	34	52,859		52,859	0.37	34
12	30	13,536		13,536	0.09	46
43	12	111,834	432,013	543,847	3.82	9
11	31	24,011	non anno ann a' leagair lea	24,011	0.17	43
231	1	1,108,210	164,787	1,272,997	8.93	2
4	36	10,036		10,036	0.07	48
5	35	46,685	63,690	110,375	0. 7 7	27
31	18	452,359	475	452,834	3.18	13
35	16	302,946		302,946	2.13	20
22	24	39,468		39,468	0.28	39
8	34	24,410		24,410	0.17	42
20	25	323,255		323,255	2.27	19
37	15	260,425		260,425	1.83	21
66	7	535,466	955	536,421	3.76	10
80	5	626,972	1,537	628,509	4.41	6
13	29	47,589	2,026	49,615	0.35	36
33	17	474,501		474,501	3.33	12
5	35	42,158	783	42,941	0.30	38
113	3	239,488	133,666	373,154	2.62	17
30	19	51,809		51,809	0.36	35
24	22	90,369	256	90,625		30
108	4	651,021	154,057	805,078	5.65	3
41	13	125,710	209	125,919	0.88	26
16	27	65,884	960	66,844	0.47	32
10	32	109,958		109,958	0.77	28
61	8	325,850	150	326,000	2.29	18
3	37	2,136		2,136	0.01	49
19	26	68,576		68,576	0.48	31
8	34	13,045		13,045	0.09	47
40	14	360,854	401,824	762,678	5.35	5
57	9	506,292		506,292	3.55	11
69	6	388,078	1,552	389,629	2.73	16
37	15	414,066	6,077	420,143	2.95	14
8	34	18,305	690	18,995	0.13	45
10	32	23,938		23,938	0.17	44
11	31	32,664		32,664	0.23	41
40	14	428,239	180,969	609,208	4.27	8
8	34	163,256		163,256	1.15	22
29	20	145,844		145,844	1.02	25
1,747		12,335,815	1,917,698	14,253,513	100.00	
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	Table 7. Mas Selec			oster Fishery; ffort Statistics	, 1984 – 88	Percent
	1984	1985	1986	1987	1988	Five Year Change
Total Landings Percent Change	12,259,311	14,203,083 15.86	14,690,452 3.43	13,384,566 -8.89	14,262,798 6.56	16.34
Total Traps Fished Percent Change	386,764	404,662 4.63	427, 8 19 <i>5.72</i>	459,360 7.37	460,031 0.15	18.94
Total Value Percent Change	\$31,996,802	\$35,081,615 9.64	\$36,873,035 5.11	\$40,515,081 9.88	\$44,785,186 10.54	39.97
Territorial Landings Percent Change	8,019,727	10,303,792 28.48	10,634,231 3.21	9,371,224 -11.88	9,700,058 3.51	20.95
			INSHORE			
Landings Percent Change	10,088,499	12,399,745 22.91	12,918,388 4.18	11,510,379 -10.90	12,345,100 7.25	22.37
Inshore Value Percent Change	\$26,330,982	\$30,627,370 16.32	\$32,425,154 5.87	\$34,841,917 7.45	\$38,763,614 11.26	47.22
Fixed Gear Landings Percent Change	9,869,820	12,199,353 23.60	12,580,793 3.13	11,243,043 -10.63	12,052,241 7.20	22.11
Inshore Traps Fished Percent Change	354,888	375,172 5.72	399,808 <i>6.57</i>	427,018 6.81	433,360 1.49	22.11
Mobile Gear Landings Percent Change	207,993	178,789 -14.04	306,035 71.17	241,986 -20.93	266,440 10.11	28.10
			OFFSHORE			
Landings Percent Change	2,170,812	1,803,338 -16.93	1,772,064 -1.73	1,874,187 5.76	1,917,698 2. 3 2	-11.66
Offshore Value Percent Change	\$5,665,819	\$4,454,245 -21.38	\$4,447,881 -0.14	\$5,673,164 27.55	\$6,021,572 6.14	6.28
Fixed Gear Landings Percent Change	2,042,943	1,747,258 -14.47	1,578,679 -9.65	1,686,856 6.85	1,695,263 0.50	-17.02
Offshore Traps Fished Percent Change	31,876	29,490 -7.49	28,011 -5.02	32,342 <i>15.46</i>	26,671 -17.53	-16.33
Mobile Gear Landings Percent Change	127,869	56,080 -56.14	193,385 244.84	187,331 -3.13	222,435 18.74	73.96
Average Value (\$) / Pound Percent Change	2.61	2.47 -5.36	2.51 1.62	3.03 20.60	3.14 <i>3.73</i>	
Ave. Lbs. / Trap-Haul Percent Change	0.5050	0.6490 28.51	0.6907 6.43	0.6304 -8.73	0.6478 2.76	
Ave. Lbs. / Trap Percent Change	30.80	34.46 11.89	33.10 - <i>3.97</i>	28.15 -14.95	29.88 6.17	

Figure 3. 1988 Massachusetts Commercial Lobster Fishery
Total Monthly Inshore Harvest by License Type

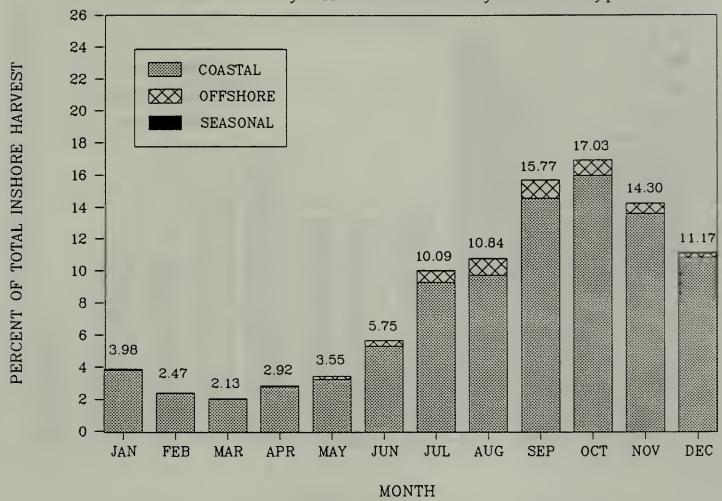


Figure 4. 1988 Massachusetts Commercial Lobster Fishery Percent Monthly Inshore Harvest for Each License Type

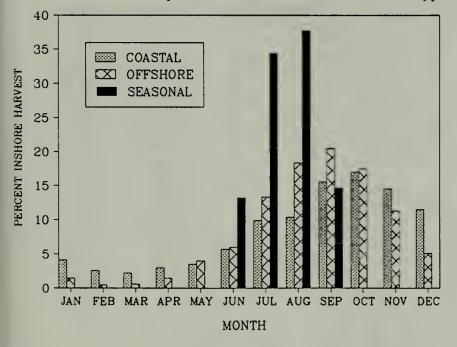


Table 8. 1988 Massachusetts Commercial Lobster Fishery; Percent Monthly Inshore Harvest for Each License Type

Month	Coastal	Offshore	Seasonal
January	4.13	1.45	
February	2.59	0.50	
March	2.22	0.60	
April	3.01	1.45	
May	3.52	4.02	
June	5.73	5.99	13.24
July	9.88	13.30	34.41
August	10.38	18.36	37.70
September	15.50	20.47	14.65
October	17.02	17.47	
November	14.49	11.26	
December	11.53	5.13	
Total	100.00	100.00	100.00

Figure 5. 1988 Massachusetts Commercial Lobster Fishery Total Inshore Harvest by Area Fished and License Type

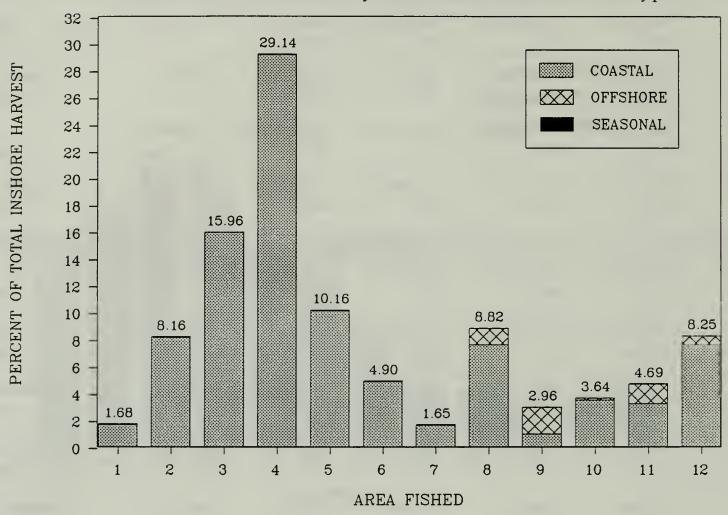


Figure 6. 1988 Massachusetts Commercial Lobster Fishery Percent Inshore Harvest by Area Fished for Each License Type

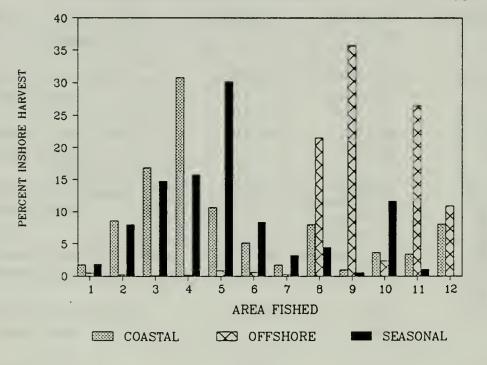


Table 9. 1988 Massachusetts Commercial Lobster Fishery; Percent Inshore Harvest by Area Fished for Each License Type

Area			
Fished	Coastal	Offshore	Seasonal
1	1.75	0.52	1.88
2	8.62	0.26	8.01
3	16.90	0.14	14.83
4	30.86	0.21	15.77
5	10.69	0.87	30.12
6	5.15	0.64	8.38
7	1.73	0.23	3.20
8	8.07	21.54	4.50
9	1.02	35.75	0.57
10	3.71	0.13	11.67
11	3.41	26.50	1.06
12	8.10	10.98	0.00
Total	100.00	100.00	100.00

Figure 7. 1988 Massachusetts Commercial Lobster Fishery Catch Per Unit of Effort For All License Types by Area Fished

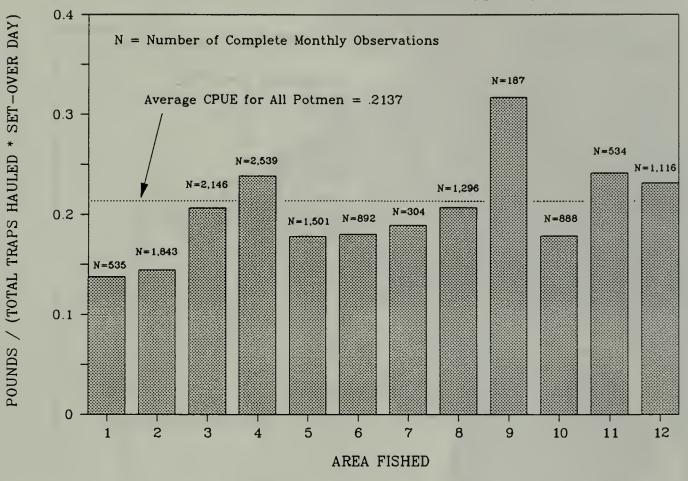
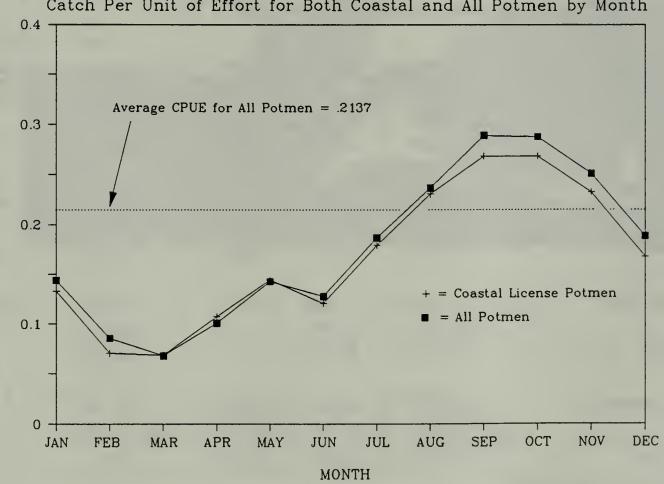


Figure 8. 1988 Massachusetts Commercial Lobster Fishery Catch Per Unit of Effort for Both Coastal and All Potmen by Month



POUNDS / (TOTAL TRAPS HAULED * SET-OVER DAY)

Figure 9. 1988 Massachusetts Commercial Lobster Fishery; CPUE by Set-Over Day for Coastal and All Potmen

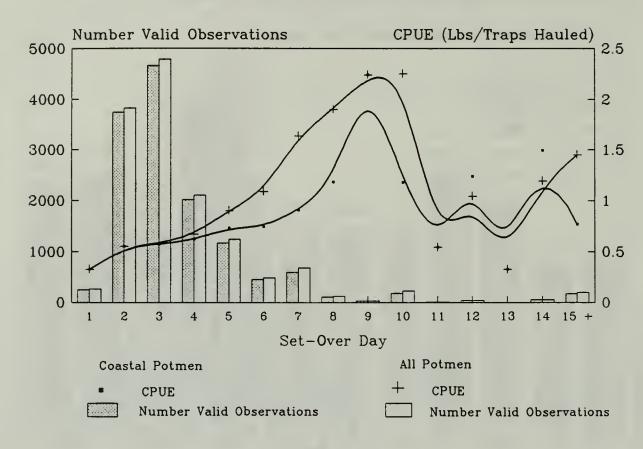


Table 10. 1988	Massachusetts Co	ommercial Lo	obster Fishe	ry; Trap Types	
Fish	ned and Value for 1	Each License	Type		
				Total	Percent
	Coastal	Offshore	Seasonal	Trap Type	of Total
Wooden Framed Traps	163,731	13,746	291	177,769	38.53%
Value	\$6,930,285	\$1,006,747	\$8,860	\$7,945,891	
Value/Trap	\$42.33	\$73.24	\$30.40	\$44.70	
				- 4	
Wire Framed Traps	267,244	14,236	791	282,270	61.18%
Value	\$11,075,157	\$887,280	\$25,804	\$11,988,241	
Value/Trap	\$41.44	\$62.33	\$32.64	\$42.47	
Other Trap Types	601	700	0	1,301	0.28%
Value	\$20,625	\$59,500		\$80,125	
Value/Trap	\$34.33	\$85.00		\$61.60	
Total for License Type	431,576	28,682	1,082	461,340	
Value	\$18,026,067	\$1,953,527	\$34,664	\$20,014,258	
Value/Trap	\$41.77	\$68.11	\$32.04	\$43.38	

Value of trap includes warp and buoy.

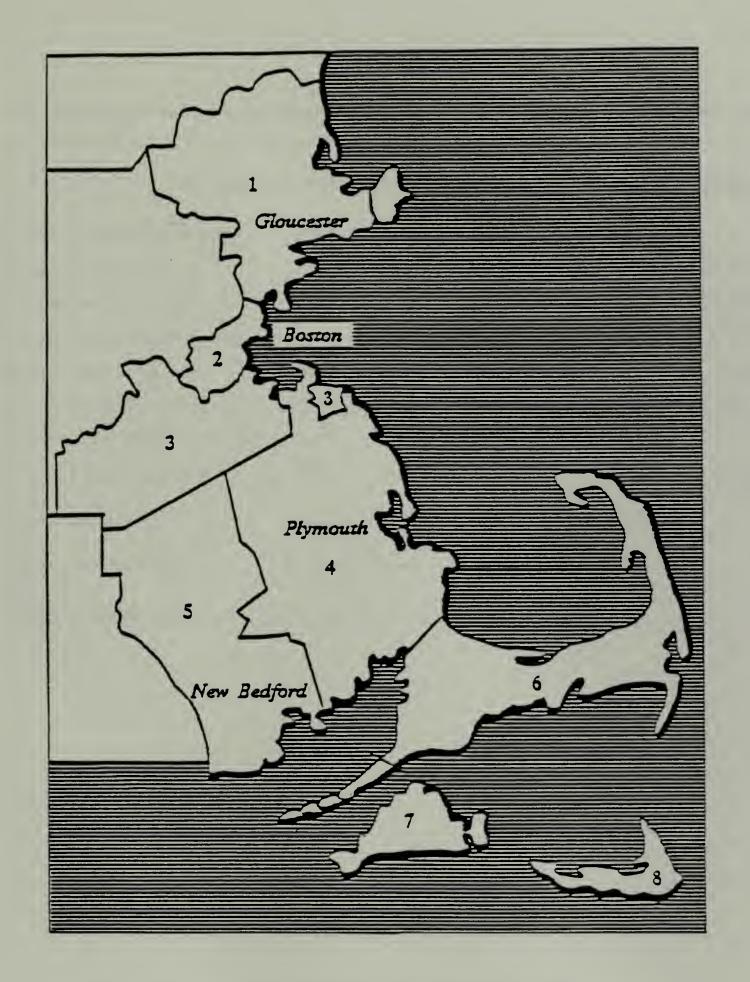


Figure 10. Coastal Map of Massachusetts Showing Statistical Reporting Areas (Counties)

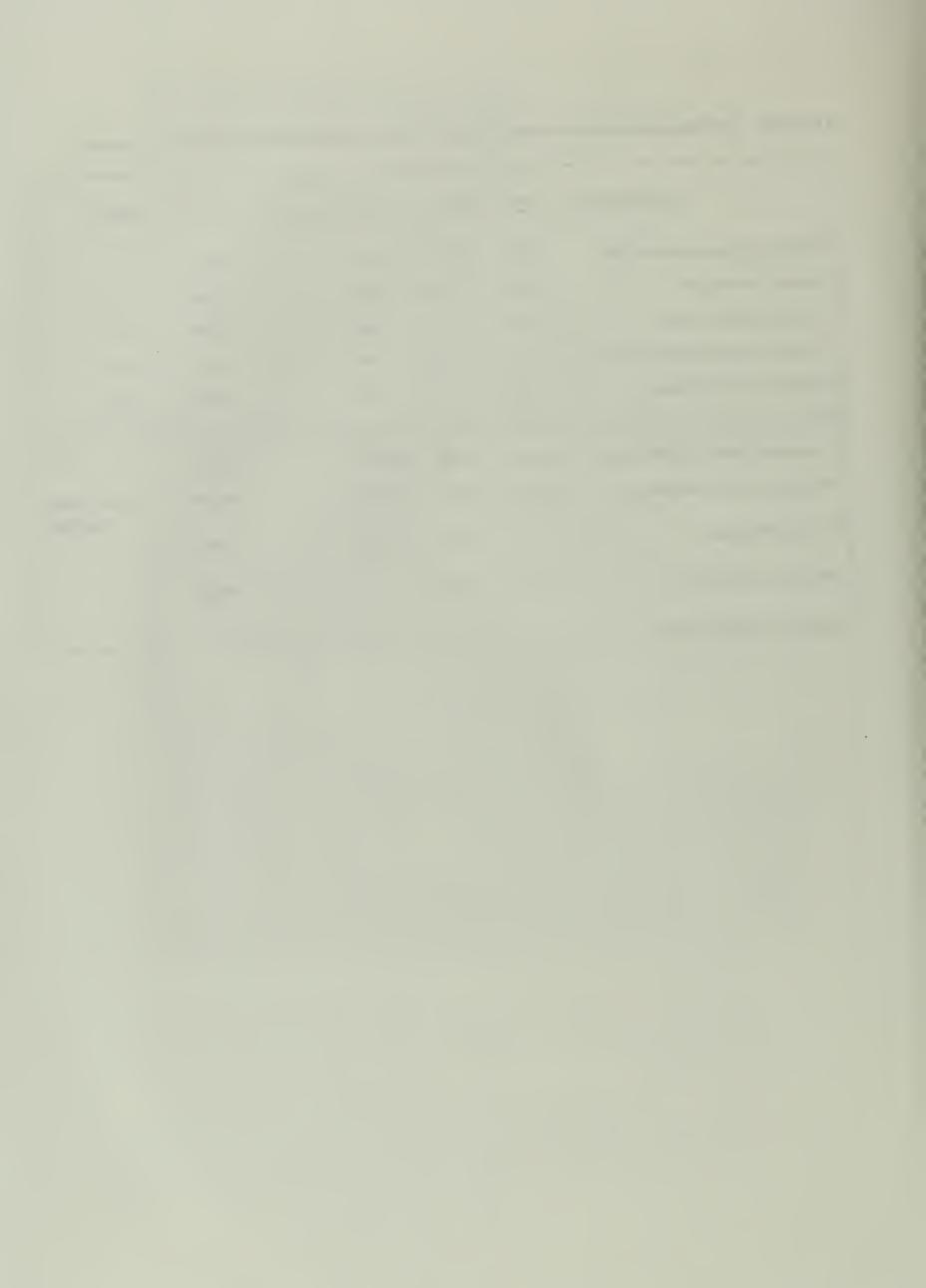
- 1. Essex
- 3. Norfolk
- 5. Bristol
- 7. Dukes

- 2. Suffolk 4. Plymouth 6. Barnstable 8. Nantucket



Addendum: 1989 Massachusetts Recreational Lobster Fishery; License Status and Harvest Information

				Method		
License Type:	Diver	Diver/Pot	Potman	Unknown	Total	Percent
1) Number of Licenses Issued in 1989	4,998	3,782	4,184	0	12,964	
2) Number That Reported	3,451	2,843	3,189	0	9,483	73.15%
a) Total Number That Fished	2,875	2,400	2,694	0	7,969	61.47%
b) Total Number That Did Not Fish	576	443	495	0	1,514	11.68%
3) Number That Did Not Report	1,601	987	1,084	0	3,481	26.85%
		a and s	K 11			·
4) Number of Lobsters Reported Landed	61,579	95,098	165,821	0	322,498	
Pounds of Lobsters (Calculated)*	78,205	120,774	210,593	0	409,572	4.42% change from 1988
5) Number Pots Fished		7,851	19,604	0	27,455	
4.9						
6) Number of Hours Diving	44,450	34,403		0	78,852	
* Based on 1.27 Pounds per Lobster.						









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